Code No.: CS624PE	R20	H.T.No.			8	R					

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Supply) - December- 2025
INFORMATION RETRIEVAL SYSTEM
(CSE)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	List two primary objectives of an Information Retrieval System.	[2M]
b)	How does an Information Retrieval System differ from a Database Management System?	[2M]
c)	Outline the importance of manual indexing in contrast to automatic indexing.	[2M]
d)	What is the signature file structure, and how does it facilitate fast retrieval of information?	[2M]
e)	Define automatic indexing and explain its significance in information retrieval.	[2M]
f)	Describe the process of Thesaurus Generation and discuss its role in enhancing information retrieval systems.	[2M]
g)	Define similarity measures in the context of information retrieval. Discuss two commonly used similarity measures and their applications.	[2M]
h)	Introduce information visualization and its significance in data exploration and analysis.	[2M]
i)	Define text search algorithms and explain their significance in information retrieval systems	[2M]
j)	List the challenges involved in video retrieval.	[2M]

PART-B **(50 Marks)**

2.	Analyze and elaborate on the functional Overview components of an Information Retrieval System with a diagram. Explain how these components interact to retrieve relevant information (Item Normalization).	[10M]
	OR	
3.	Explain the Browse and Miscellaneous capabilities of IRS.	[10M]
4.	Distinguish N-gram data structure and PAT data structure.	[10M]
	OR	
5.	Compare signature file structures with other indexing methods, highlighting their respective strengths and weaknesses. Illustrate a scenario where a signature file structure would excel.	[10M]
6.	Compare and contrast manual clustering and automatic term clustering.	[10M]
	OR	
7.	Analyze and illustrate document Term clustering with an example.	[10M]

	Term1	Term 2	Term 3	Term 4	Term 5	Term 6	Term 7	Term 8
Item 1	0	4	0	0	0	2	1	3
Item 2	3	1	4	3	1	2	0	1
Item 3	3	0	0	0	3	0	3	0
Item 4	0	1	0	3	0	0	2	0
Item 5	2	2	2	3	1	4	0	2

8.	a)	Discuss the difficulties in applying ranking when Boolean queries are used.	[5M]
	b)	Explain search statements and binding.	[5M]
		OR	
9.	a)	Evaluate the challenges in information visualization.	[5M]
	b)	Explain cone-tree and 3D objects in visualization.	[5M]
10.		What kind of features in spoken language audio retrieval and non speech audio retrieval. Explain.	[10M]
		OR	
11.		Examine the Hardware Text Search algorithmic basis utilized for the GE-SCAN and Fast Data Finder hardware text search machines. Rationalize the selection of this approach over alternative methods.	[10M]

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